REMARKS/ARGUMENTS

Reconsideration of the application as amended is respectfully requested.

Status of the Claims

Claims 1-10, 12, and 15-24 are pending in the application, with claim 1 being the only independent claim. Claim 1 has been amended.

Overview of the Office Action

Claims 1-7, 9, 10, 12 and 15-22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,498,355 (*Harrah*) in view of U.S. Patent No. 6,340,824 (*Komoto*), and further in view of U.S. Patent No. 6,095,666 (*Salam*).

Claims 23 and 24 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Harrah* in view of *Komoto* and *Salam* and further in view of U.S. Patent No. 6,318,886 (*Stopa*).

Information Disclosure Statement

The Examiner is respectfully requested to considered the enclosed Information Disclosure Statement.

Summary of Subject Matter Disclosed in the Specification

The following descriptive details are based on the specification. They are provided only for the convenience of the Examiner as part of the discussion presented herein, and are not intended to argue limitations which are unclaimed.

The present specification discloses an optoelectronic component 1 includes a heat sink 12; a carrier 22 thermally conductively connected to the heat sink 12; a semiconductor arrangement 4 which emits and/or receives electromagnetic radiation and which is arranged on the carrier 22; and external electrical connections 9 which are connected to the semiconductor arrangement 4. The external electrical connections 9 are arranged in electrically insulated fashion on the heat sink 12 at a distance from the carrier 22. The semiconductor arrangement 4 and the carrier 22 are arranged in a cavity of a basic housing 20 which is defined by an inner side 17 which obliquely faces the semiconductor arrangement 4 and forms a first reflective area for a portion of the electromagnetic radiation. Between the semiconductor arrangement 4 and the inner side 17 of the basic housing 20 there is a reflective filling compound 16 which has a concave curved surface which extends from the inner side of the basic housing 20 to a top edge of the carrier 22 and forms a second reflective area for a portion of the electromagnetic radiation. *See* Figure and paragraphs [0009], [0024] and [0040] to [0047] of the published version of the specification (i.e., US Patent Application Publication No. 2006/0138621).

Allowability of the Claims

Independent Claim 1

Applicants have amended independent claim 1 to more clearly distinguish it over the prior art of record. Support for this amendment can be found, for example, in the sole figure and the paragraph which bridges pages 5 and 6 and the last paragraph on page 10 of the specification.

Amend claim 1 now recites, *inter alia*, the following:

> "a reflective filling compound provided between the semiconductor arrangement and the inner side of the basic housing, the reflective filling material comprising a concave curved surface extending from the inner side of the basic

housing to a top edge of the carrier and forming a second reflective area for another portion of the electromagnetic radiation" (emphasis added).

Applicants respectfully submit that amended claim 1 is patentable over *Harrah* in view of *Komoto* and *Salam* because the combination of *Harrah*, *Komoto* and *Salam* fails to teach or suggest all of the limitations of amended claim 1. In particular, the combination of *Harrah*, *Komoto* and *Salam* fails to teach or suggest the above-highlighted limitations of amended claim 1.

On pages 3 and 4 of the Office Action, the Examiner acknowledges that *Harrah* does not teach (a) a cavity defined in a basic housing comprising an inner side which obliquely faces a semiconductor arrangement and forms a first reflective area for a portion of the electromagnetic radiation, and (b) a reflective filling compound provided between the semiconductor arrangement and the inner side of the basic housing, the reflective filling material comprising a curved surface forming a second reflective area for another portion of the electromagnetic radiation". Furthermore, *Harrah* explicitly teaches using a lens 26 to control the direction of the light output (*see* Figs. 2-4 and col. 4, lines 1-3 of *Harrah*). Therefore, *Harrah* fails to disclose, teach or suggest the limitations "the reflective filling material comprising a concave curved surface extending from the inner side of the basic housing to a top edge of the carrier and forming a second reflective area for another portion of the electromagnetic radiation" (emphasis added) of amended claim 1 of the present application.

Neither *Komoto* nor *Salam* supplies what is missing from *Harrah*.

As discussed in the last-filed Response, in the embodiment shown in Fig. 46 of *Komoto*, a semiconductor light emitting element 990 is covered by a dipping resin 542E, which is in turn covered by a molded resin 540E (*see* Fig. 46 and col. 30, lines 4-9 of *Komoto*). However, neither the dipping resin 542E nor the molded resin 540E has a concave curved surface

extending from an inner side of the basic housing to a top edge of a carrier for the light emitting element 990. As clearly shown in Fig. 46, the entire curved surface formed by interface of the dipping resin 542E and the molded resin 540E is disposed above the light emitting element 990 and its carrier. Thus, like *Harrah*, *Komoto* fails to disclose or teach the limitations "the reflective filling material comprising a concave curved surface extending from the inner side of the basic housing to a top edge of the carrier and forming a second reflective area for another portion of the electromagnetic radiation" (emphasis added) of amended claim 1.

Moreover, in *Komoto*, neither the dipping resin 542E nor the molded resin 540E is used to reflect electromagnetic radiation emitted by the light emitting element 990. Rather, the dipping resin 524E contains a fluorescent material which is used to convert a first wavelength into a second wavelength (*see* Abstract; col. 28, line 50 to col. 29, line 25 and col. 30, lines 7-9 of *Komoto*). The molded resin 540E is used to create a lens effect for the second wavelength (*see* col. 29, lines 33-41 of *Komoto*). Thus, *Komoto* also fails to suggest the above-quoted limitations of amended claim 1.

Salam relates to an LED package 32 which has reflectors 37-40 with curved surfaces such as surface 58 (*see* Abstract; Figs. 10 and 11 and col. 4, lines 1-6 of *Salam*). As the Examiner acknowledges in the Office Action, *Salam* does not teach using a filling compound to form the reflectors 37-40. Furthermore, it is noted that in *Salam* the curved surface 58 does not extend from an inner side of the basic housing to a top edge of the carrier. As clearly shown in Fig. 10 of *Salam*, the curved surface 58 extends to the portion 50 at a point which is below the top edge of portion 50. There is neither an additional reflective filling nor any motivation for providing the claimed reflective filling in *Salam*. Therefore, *Salam* also fails to disclose, teach or suggest the limitations "the reflective filling material comprising a concave curved surface

extending from the inner side of the basic housing to a top edge of the carrier and forming a second reflective area for another portion of the electromagnetic radiation" (emphasis added) of amended claim 1.

In response to Applicants' previous arguments, the Examiner states that Komoto is relied on for teaching of a curved surfaces utilizing filling compounds. However, the curved surface of Komoto does not form a reflective area. Moreover, none of the prior art teaches or suggests using a filling material to form a reflective area.

As a result, the combination of *Harrah*, *Komoto* and *Salam* fails to teach or suggest the above-quoted limitations of amended claim 1.

In view of the foregoing, withdrawal of the 35 U.S.C. 103(a) rejection of claim 1 is respectfully requested.

Dependent Claims 2-10, 12, and 15-24

Claims 2-10, 12, and 15-24 depend, either directly or indirectly, from independent claim 1 and, thus, each is allowable therewith.

In addition, these claims include features which serve to even more clearly distinguish the claimed invention over the prior art of record.

Conclusion

Based on all of the above, it is respectfully submitted that the present application is now in proper condition for allowance. Prompt and favorable action to this effect and early passing of this application to issue are respectfully solicited.

Should the Examiner have any comments, questions, suggestions or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues.

Respectfully submitted,

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